इंटरनेट मानक

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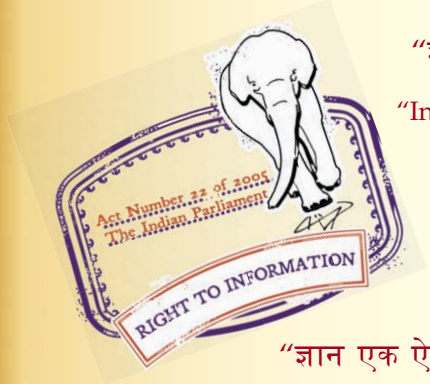
IS 11967-3-5 (1989): Radio Frequency Coaxial Cables, Part 3: Solid Extruded/Tape Wrapped PTFE, Section 5: Flexible Type R 75-4-F 05 [LITD 6: Wires, Cables, Waveguides and Accessories]



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IS 11967 (Part 3/Sec 5) : 1989
(Reaffirmed 2003)

Indian Standard

RADIO FREQUENCY COAXIAL CABLES — SPECIFICATION

PART 3 SOLID EXTRUDED/TAPE WRAPPED PTFE

Section 5 Flexible Type R 75-4-F 05

भारतीय मानक

रेडियो आवृति दोअक्षीय केबल — विशिष्टि

भाग 3 ठोस बहिर्वेधित/टेप चढ़े पी टी एफ ई

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

September 1989

Price Group 2

FOREWORD

This Indian Standard (Part 3/Sec 5) was adopted by the Bureau of Indian Standards on 23 January 1989, after the draft finalized by the Wires and Cables for Electronic Equipment Sectional Committee had been approved by the Electronics and Telecommunication Division Council.

This standard covers solid/extruded/tape wrapped PTFE radio frequency cables with characteristic impedance 75 ohms and Type R 75-4-F 05.

IS 5026 : 1987 General requirements and test for radio frequency cables (*first revision*) is a necessary adjunct to this standard.

The cable covered under this standard is useful for general purpose high temperature applications.

The connectors for these cables should be chosen from Series BMC and TNC.

This standard is based on MIL-C-17/110C 'Military Specification Sheet — Cables, Radio Frequency, Flexible Coaxial, 75 ohms, M17/110-RG 302', issued by the Department of Defence, USA.

Indian Standard

RADIO FREQUENCY COAXIAL CABLES — SPECIFICATION

PART 3 SOLID EXTRUDED/TAPE WRAPPED PTFE

Section 5 Flexible Type R 75-4-F 05

1 SCOPE

This standard (Part 3/Sec 5) specifies dimensions, constructional details and the requirements of solid extruded/tape wrapped PTFE radio frequency coaxial cables, Flexible Type R 75-4-F 05.

2 OUTLINE DRAWING — *See* Fig. 1.

3 CONSTRUCTION — *See* Table 1.

4 REQUIREMENTS

4.1 Dimensions, Configuration and Description — *See* Fig. 1 and Table 1.

Table 1 Description

Sl No.	Components	Construction Details
(1)	(2)	(3)
i)	Inner conductor	Silver-coated, copper covered, Solid steel wire Diameter 0·64 ± 0·02 mm
ii)	Dielectric core	Type F-1 or F-2: Solid extruded/tape wrapped PTFE Diameter: 3·71 ± 0·13 mm
iii)	Outer conductor	Single braid of 0·13 mm silver-coated copper wire Diameter: 4·47 mm maximum Coverage: 90% minimum Carriers: 16 Ends: 7 Picks/cm: 4·5 ± 10%
iv)	Jacket	Type IX. FEP Diameter: 5·13 ± 0·13 mm

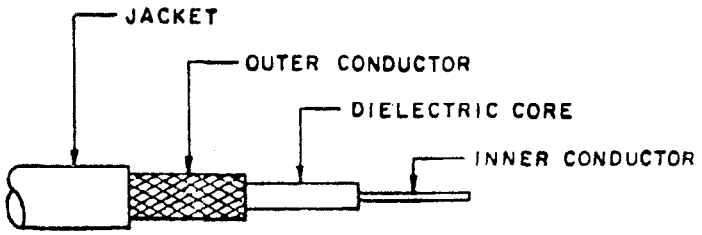


FIG. 1 CONFIGURATION

4.2 Environmental and Mechanical

Tests	*Requirements*	*Clause Reference to IS 5026: 1987*
a) Visual and mechanical examination: Eccentricity	10 percent, Maximum	6.4.3
b) Adhesion of conductors: Inner conductor to core	10 N, Minimum 70 N, Maximum	6.4.4
c) Stress crack resistance*	230 ± 5°C; mandrel size seven times the jacket diameter	6.20
d) Dimensional stability:	200 ± 5°C	6.25
i) Inner conductor from core	6·2 mm, Maximum	
ii) Inner conductor from jacket	8·0 mm, Maximum	
e) Flammability		6.28

4.3 Electrical

a) Continuity	—	6.5
b) Spark test	2 000 Vrms, + 25 percent, — 0 percent	6.6
c) Voltage withstanding	3 500 Vrms, Minimum	6.7
d) Corona extinction voltage	2 300 Vrms, Minimum	6.9
e) Characteristic impedance	75 ± 3 ohms	6.10
f) Attenuation	26·2 dB/100 m, Maximum, at 0·4 GHz; 85·3 dB/100 m, Maximum at 3 GHz	6.11
g) Capacitance	72·2 pF/m, Maximum	6.13

5 ENGINEERING INFORMATION

a) Continuous working voltage : 1 700 Vrms, Maximum.

b) Operating frequency : 3 GHz Maximum.

c) Velocity of propagation : 69·5 percent, nominal.

d) Power rating : *See* Fig. 2.

e) Operating temperature range : — 55 to + 200°C.

f) Inner conductor properties:

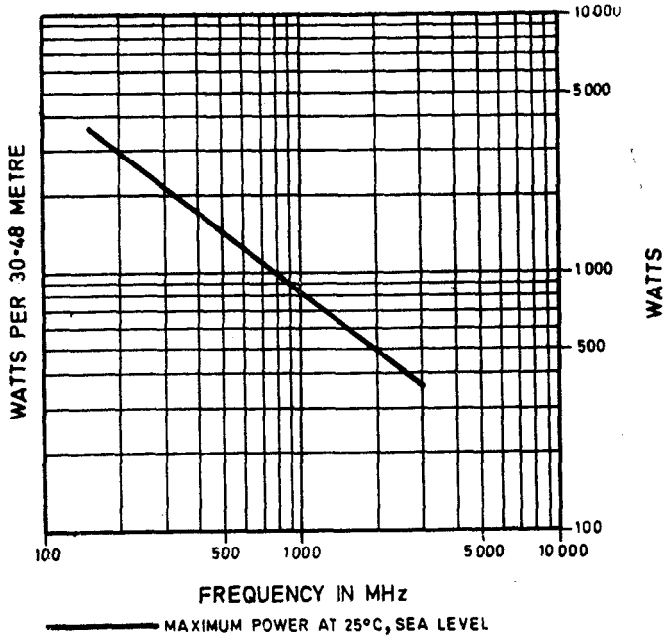
i) DC resistance (maximum at 20°C): 144·3 ohms/km.

ii) Elongation : 1 percent, Minimum.

iii) Tensile strength : 760 MN/m^2, Minimum.

Mass* : 60 g/m, Maximum.

*When specially required.



MHz	*Watts*
150	3 500
200	2 800
400	1 700
1 000	800
2 000	470
3 000	350

FIG. 2 POWER RATING

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The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

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